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CLASSIFICATION OF TRADE STATISTICS.

The classification of statistics largely determines their usefulness to the general student. The results must be accepted as they come from the statistician, for the task of reclassifying is practically beyond the power of all who have not at command a well equipped statistical force.

It cannot be expected that any one plan will meet every requirement. But there are certain general principles to which all schemes of classification should conform. Homogeneity, uniformity, simplicity, and adequacy may fairly be said to be universal requirements.

The classification of Domestic Exports and of Imports, adopted by the Bureau of Statistics of the Treasury Department, is as follows :

Exports of Domestic Merchandise.

Products of Agriculture.

Products of Mining, including crude mineral oils.

Products of the Forest.

Products of the Fisheries.

Products other than of Agriculture, etc.

Products of Domestic Manufacture.

Imports of Merchandise.

Articles of food, and animals.

Articles in a crude condition which enter into the various processes of domestic industry.

Articles wholly or partially manufactured for use as materials in the manufactures and the mechanic arts.

Articles manufactured, ready for consumption.

Articles of voluntary use, luxuries, etc.

Viewed in the light of the principles above mentioned, this classification is deficient in several respects.

Homogeneity requires that the same basis of classification shall be observed throughout. This is the first and most fundamental requirement. The plan adopted should be sufficiently inclusive and exclusive ; no item would then be capable of classification under more than one division in a given investigation. Conformity to this principle is often difficult, yet it should be sought not the less, for the extent to which it is realized determines the integrity of the work.

The basis adopted for exports is in part "kind of commodity,"

and in part "stage of production." On the basis of "kind of commodity," there appear products of agriculture, products of mining, etc., while on the basis of "stage of production" certain products are given as manufactured articles. The demands of homogeneity are evidently not met here, for the same article may be a product of agriculture, or of mining, etc., and at the same time be manufactured.

It is manifestly the intention of the Treasury Department* that, in a comparison of exports of manufactures with those of raw materials, the articles classed as products of domestic manufacture should be compared with the total of all the other groups. Accepting this view, the classification is still open to criticism. There does not appear to be a uniform principle for deciding between the manufactured and other articles. Flour and all grist mill products, canned fruits, cottonseed and linseed oils, glucose, glue, all provisions, and wine are placed as products of agriculture; saw-mill products are products of the forest; canned and cured fish are products of the fisheries; all of which it appears are to be considered as manufactured in comparisons involving manufactured and crude materials. In the list of manufactures will be found bricks, lime and cement, fertilizers, pig-iron, ground coffee and cocoa, sole leather, malt liquors, ground spices, refined mineral oil, and other similar products. It must be granted that it is extremely difficult to make a scientific distinction between raw materials and manufactured products; but it is not clear by what criterion grist mill products, canned goods, cottonseed and linseed oils, and wine belong to the former, while ground spices, ground coffee and cocoa, fertilizers, lime and cement, bricks, refined mineral oil, and malt liquors belong to the latter.

In the classification of imports, the basis is a combination of "wants supplied," and "stage of production." Certain imports are classed as food products, others as luxuries, while others appear as crude, partially manufactured, or manufactured. The inconsistencies here are even greater than in the classification of exports. Among "articles of voluntary use, luxuries, etc.," as distinct from "manufactured articles ready for consumption," are art works, embroideries, laces, manufactures of silk, manufactures of tobacco, and wine. If it be said that these should be placed as manufactured articles in a comparison between total crude and total manufactured, it will not even

* See note p. ciii. *Report on Commerce and Navigation of the United States, 1891.*

then appear why wine should be classed with malt liquors as a manufactured product in imports, while in exports it stands as a product of agriculture. Enough has been said, I think, to make it apparent that the present classification of trade statistics fails to conform to the principle of homogeneity. Surely, an article may be both food product and crude material, or manufactured, both manufactured and food product or luxury.

Uniformity requires the employment of the same plan of classification in similar investigations. This principle is essential to comparison of results, and until such comparison is made any statistical result is meaningless. It is of but little importance to ascertain the population of any district, the death rate in any locality, or the volume and character of trade, unless these facts may be placed along side others of a similar nature to learn whether the given result be large or small, normal or abnormal, and to arrive at conclusions concerning causes and tendencies.

In the case of exports and imports no comparison is possible except of totals. There are exports of agriculture, but no imports of this class. There are imports of food products, but no exports to correspond. The same is true of every class in the scheme used.

The principles of simplicity and of adequacy require, on the one hand, that the classification shall not be carried to an extreme, and, on the other, that it be sufficiently minute. If statistics are to be available for practical uses, the salient facts must not be concealed by a mass of details; and, at the same time, the classes must be sufficiently differentiated to bring out clearly the important facts. "The general rule to follow as regards detailed statistics is to present in detail what the reader or student may reasonably wish to use in detail, or may wish to combine in some way different from the totals or recapitulations given with the detail." *

These principles of simplicity and adequacy are satisfactorily observed in the statistics of trade, with certain minor exceptions that would disappear if the classification were made homogeneous and uniform.

From the classification adopted by the Bureau of Statistics it would seem that the information most desired concerns "kind of product," and "stage of production." Does trade consist more largely of crude

* Charles F. Pidgin, *Practical Statistics*, p. 155.

materials, or of manufactured products? In what proportion do products of agriculture, of the forest, of the fisheries, or of mining enter? Without doing violence to the scheme already in use, it is believed that the following plan will give the information in an improved form.

FOREIGN TRADE.

EXPORTS.

DOMESTIC.

Raw Materials.
Agriculture.
Fishery.
Forest.
Mineral.
Miscellaneous.

Manufactures.
Agriculture.
Fishery.
Forest.
Mineral.
Miscellaneous.

FOREIGN.

Raw Materials.
Agriculture.
Fishery.
Forest.
Mineral.
Miscellaneous.

Manufactures.
Agriculture.
Fishery.
Forest.
Mineral.
Miscellaneous.

IMPORTS.

Raw Materials.
Agriculture.
Fishery.
Forest.
Mineral.
Miscellaneous.

Manufactures.
Agriculture.
Fishery.
Forest.
Mineral.
Miscellaneous.

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